

Eva Maria Vecchi

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RESEARCH INTERESTS Distributional/Computational Semantics, Compositionality & Formal Semantics, Corpus-based Natural Language Processing, Machine Learning, Cognitive Computing

EDUCATION **Ph.D. Cognitive and Brain Sciences**
Dec. 6, 2013 CIMEC, University of Trento Rovereto, Italy
Advisors: Prof. Dr. Roberto Zamparelli & Prof. Dr. Marco Baroni
Thesis Title: “Distributional semantic phrases vs. semantic distributional nonsense: Adjective modification in compositional distributional semantics”

M.Sc. Computational Linguistics
May 18, 2007 Georgetown University Washington D.C.
Advisor: Prof. Dr. Markus Dickinson
Thesis Title: “Personal Names: Recognition of variants incorporating the understanding of possible variations”

B.A. Linguistics
May 6, 2005 University of Colorado Boulder, CO
Minors: Mathematics & Italian

EXPERIENCE **Jan. 2014 – present** *Research Associate* Cambridge, UK
University of Cambridge, Computer Laboratory

- Research associate in the Natural Language and Information Processing (NLIP) research group under the supervision of Dr. Stephen Clark
- As part of the DisCoTex Project, an ERC Starting Grant

Apr. 2010 – Oct. 2010 *Research Fellow* Pisa, Italy
CNR, Institute of Computational Linguistics

- Development of methodologies and techniques for monitoring the linguistic competence in Italian of foreign students in primary and secondary schools through advanced technologies in the field of computational linguistics
- Research grant through the Istituto di Ricerche sulle Attività Terziarie (IRAT) for the “Migrazione” Project (code IC.P10)
- Under the supervision of Dr. Simonetta Montemagni (as a result of collaboration between the IRAT and the Institute of Computational Linguistics).

Oct. 2009 – Mar. 2010 *Research Fellow* Pisa, Italy
University of Pisa, Department of Computer Science

- Design and development of a toolkit for extracting and structuring linguistic knowledge from websites of Italian culture through the use of linguistic and computational technologies
- Development of an Italian FrameNet resource through full-text annotation of open-domain corpora in Italian
- As part of the FIRB project “Integrated services platform for the semantic and multilingual access to Italian cultural content on the web” (Year 2007 Protocol: RBNE07C4R9)

May 2008 – Sept. 2009 *Research Fellow* Pisa, Italy
University of Pisa, Department of Computer Science

- Design and development of a system for the automatic morpho-syntactic, syntactic dependency and semantic annotation of Italian texts
- Research grant “Annotated corpus of the Italian language” under the project “Analysis of texts for the Semantic Web and Question Answering (SemaWiki, conv. 119/06)”

2005–2007 *Information Systems Engineer* McLean, VA
The MITRE Corporation

- Design and evaluation of systems of transliteration and name variant matching
- Development of a taxonomy for multilingual, multicultural and transliteral variants of personal names for a semi-supervised approach to name variant recognition
- Annotation of personal names in parallel English–Chinese news texts for the development of a cross-lingual Named Entity Recognition system
- Under the direction of Dr. Keith Miller and Dr. Philip S. Barry
- In collaboration with The Identity Matching Lab under the TSA and TSC

2005–2006 *Research Assistant* Washington, D.C.
Federation of American Scientists

- Question-Answering system for biomedical computer game, “Immune Attack”
- Under the project funded by the NSF (Grant No. 0427827)

SCHOLARSHIPS AND RECOGNITIONS **Oct. 2014 – Oct. 2017** University of Cambridge Cambridge, UK
Granted Post-Doctoral By-Fellowship at Churchill College
Nov. 2010 – Dec. 2013 University of Trento Rovereto, Italy
Granted scholarship for Doctoral studies at the Center for Mind/Brain Sciences
Mar. 2010 University of Pisa Pisa, Italy
Granted a diploma of Laurea Specialistica in Informatica Umanistica (class 24L/D) of the order of the Italian University by Prof. Vincenzo Ambriola (n. 0003537)
Mar. 2010 University of Pisa Pisa, Italy
Granted a diploma of Laurea Triennale in Informatica Umanistica (class 5) of the order of the Italian University by Prof. Vincenzo Ambriola (n. 0003532)

AWARDS **Honorable Mention Best Paper Award** EMNLP 2015 Sept. 2015
Best oral presentation CIMEC Doctoral School Day Sept. 2012
1st place in the Part-of-Speech Tagging (Open Task), *EVALITA 2009* Dec. 2009
3rd place in the Part-of-Speech Tagging (Closed Task), *EVALITA 2009* Dec. 2009

PARTICIPATION IN GRANT-FUNDED RESEARCH **Distributional Compositional Semantics for Text Processing (DisCoTex)**, European Research Council project (nr. 306920)
Compositional Operations in Semantic Space (COMPOSES), European Research Council project (nr. 283554)
“Migrazione” Project, Department of Cultural Identity, Italy (code IC.P10)
Integrated services platform for the semantic and multilingual access to Italian cultural content on the web, Fondo per gli Investimenti della Ricerca di Base (FIRB) Project (Year 2007 Protocol: RBNE07C4R9)
Analysis of texts for the Semantic Web and Question Answering (SemaWiki), Fondazione Cassa di Risparmio di Pisa (conv. 119/06)
Building Biologically Based Immune System Simulations for Education and Training, National Science Foundation (Grant No. 0427827)

Journal Papers:

- E.M. Vecchi**, M. Marelli, R. Zamparelli and M. Baroni. 2017. *Spicy adjectives and nominal donkeys: Capturing semantic deviance using compositionality in distributional spaces*. *Cognitive Science* 1–35. DOI: 10.1111/cogs.12330.
- A. Herbelot and **E.M. Vecchi**. 2016. *Many speakers, many worlds: Interannotator variations in the quantification of feature norms*. *Linguistic Issues in Language Technology* 13(2):37–57.

Proceedings:

- L. Rimell and **E.M. Vecchi** (2016). SLEDDDED: A Proposed Dataset of Event Descriptions for Evaluating Phrase Representations. In *Proceedings of the 2016 ACL Workshop on Evaluating Vector Space Representations for NLP (RepEval 2016)*. Berlin, Germany.
- A. Herbelot and **E.M. Vecchi** (2015). Building a shared world: Mapping distributional to model-theoretic semantic spaces. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*. Lisbon, Portugal. ****Honorable Mention for Best Paper Award****
- L. Făgărășan, **E.M. Vecchi**, and S. Clark (2014). From distributional semantics to feature norms: Grounding semantic models in human perceptual data. *NIPS Learning Semantics Workshop 2014*. Montreal, Canada.
- E.M. Vecchi**, R. Zamparelli, and M. Baroni (2013). Studying the recursive behaviour of adjectival modification with compositional distributional semantics. In *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing*, Seattle, WA.
- A. Lazaridou, **E.M. Vecchi** and M. Baroni (2013). Fish transporters and miracle homes: How compositional distributional semantics can help NP parsing. In *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing*, Seattle, WA.
- E.M. Vecchi**, R. Zamparelli, and M. Baroni (2013). Compositionnalité en sémantique distributionnelle et ordonnancement des adjectifs. In *Actes de MIXEUR 2013: Méthodes mixtes pour l'analyse syntaxique et sémantique du français*, pages 99–102, Les Sables d'Olonne, France.
- G. Boleda, **E.M. Vecchi**, M. Cornudella and L. McNally (2012). First-order vs. higher-order modification in distributional semantics. In *Proceedings of the Joint Conference on EMNLP*. Jeju, Korea.
- E.M. Vecchi**, M. Baroni and R. Zamparelli (2011). (Linear) maps of the impossible: Capturing semantic anomalies in distributional space. In *Proceedings of the ACL Distributional Semantics and Compositionality Workshop*. Portland, Oregon.
- A. Lenci, S. Montemagni, **E.M. Vecchi**, G. Venturi (2011). Enriching the ISSTANL Corpus with Semantic Frames. *EVALITA 2011*. Rome, Italy.
- G. Attardi, S. Dei Rossi, F. Dell'Orletta, **E.M. Vecchi** (2009). The Tanl Named Entity Recognizer at Evalita 2009. In *Proceedings of the 2nd Special Issue on EVALITA 2009*. Reggio Emilia, Italy.
- G. Attardi, A. Fuschetto, F. Tamberi, M. Simi, **E.M. Vecchi** (2009). Experiments in tagger combination: arbitrating, guessing, correcting, suggesting. In *Proceedings of the 2nd Special Issue on EVALITA 2009*. Reggio Emilia, Italy.
- G. Venturi, A. Lenci, S. Montemagni, **E.M. Vecchi**, M.T. Sagri, D. Tiscornia, T. Agnoloni (2009). Towards a FrameNet Resource for the Legal Domain. In the *3rd Workshop on Legal Ontologies and Artificial Intelligence Techniques joint with*

2nd Workshop on Semantic Processing of Legal Text. (LOAIT 2009). Barcelona, Spain.

K. Miller, M. Arehart, C. Ball, J. Polk, A. Rubenstein, K. Samuel, E. Schroeder, **E.M. Vecchi**, C. Wolf (2008). An Infrastructure, Tools and Methodology for Evaluation of Multicultural Name Matching Systems. In *Proceedings of the Sixth International LREC*. Marrakech, Morocco.

NLP COMMITTEE ACTIVITIES **ACL 2018** Workshops Co-Chair
EACL 2017 Program Committee
EMNLP 2017 Program Committee
***SEM 2013/2014/2015/2016/2017** Program Committee
IWCS 2013/2017 Program Committee
NAACL HLT 2016 Program Committee
COLING 2014/2016 Program Committee
DSALT 2016 Program Committee
SSST 2014 Workshop Co-Organizer
ACL 2014 SRW Program Committee
RANLP 2013 SRW Program Committee
ACL 2013 SRW Workshop Co-Chair

INVITED TALKS **University of Cambridge** LTL Seminar Series May 11, 2017
Building a True Semantic World: Generalizing set-theoretic semantics in vector spaces
Ludwig Maximilians University (LMU) CIS Seminar Series Nov. 29, 2016
Building a True Semantic World: Generalizing set-theoretic semantics in vector spaces
University of Edinburgh ILCC Seminar Series May 23, 2014
Adjective modification in compositional distributional semantics
University of Stuttgart IMS Seminar Series Jan. 20, 2014
Distributional semantic phrases vs. semantic distributional nonsense

LANGUAGES English Fluent (Mother language)
Spanish Fluent (Mother language)
Italian Fluent
German Basic Knowledge (A2)
French Basic Knowledge

COMPUTER SKILLS Python Advanced
Perl Advanced
R Advanced
C++ Intermediate
Java Intermediate

COMMUNITY SERVICE **ESL Tutor**, Florence, Italy, 2007–2009
Undergraduate Math tutor, Georgetown University, Washington, D.C., 2006
Math & ESL tutor, Family Learning Center, Boulder, CO, 2005

EXTRA-CURRICULAR ACTIVITIES **Violin Concerts**, Florence, Italy 2009
Violinist of a quartet in various concerts held at San Marco, Florence Italy
The Russian Ballet Company, Denver, CO 2002–2005
Under Artistic Director Elizabeth Shpiatsky. Various performances including *The Nutcracker*, *Cipollino*, *Paquita*, *Don Quijote*, *Swan Lake* and *Giselle*.
The Washington Ballet, Washington, D.C. 1998–2001

Selected as a pre-professional pupil and performer by Mary Day, studied under the direction of Septime Webre